

## 09474000 GILA RIVER AT KELVIN, AZ

**LOCATION**--Lat 33°06'10", long 110°58'33", in NE<sub>1/4</sub>NW<sub>1/4</sub> sec. 12, T.4 S., R.13 E., Pinal County, Hydrologic Unit 15050100, on left bank at Kelvin, 500 ft downstream from Mineral Creek, 18 mi downstream from San Pedro River, and 19 mi upstream from Ashurst-Hayden Dam.

**DRAINAGE AREA**--18,011 mi<sup>2</sup>, of which 5,125 mi<sup>2</sup> is below Coolidge Dam.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD**--Jan. 1911 to current year.

**REVISED RECORDS**--WSP 329: 1911. WSP 609: 1916(M). WSP 629: 1914–17. WSP 1119: 1913, 1915, 1917(M), 1921(M), 1922–23, 1927(M). WSP 1283: Drainage area.

**GAGE**--Water-stage recorder. Datum of gage is 1,745.02 ft above sea level. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, nonrecording gages at several sites within 2 mi of present site at different datums. Sept. 1, 1915, to Sept. 30, 1963, water-stage recorder at site 900 ft downstream at datum 1.80 ft lower. Jan. 16, 1985, to June 1990, supplementary water-stage recorder at same site and datum.

**REMARKS**--Records fair, no estimated daily discharges. Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 82,000 acres irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir 49 mi upstream since Nov. 15, 1928. (See sta 09469000.) San Pedro River contributes major portion of unregulated inflow.

**AVERAGE DISCHARGE** (adjusted for storage in San Carlos Reservoir)--94 years, 511 ft<sup>3</sup>/s, 370,200 acre-ft/yr; median of yearly mean discharges, 314 ft<sup>3</sup>/s, 227,900 acre-ft/yr.

**EXTREMES FOR PERIOD OF RECORD**--1911–28: Maximum discharge, about 132,000 ft<sup>3</sup>/s Jan. 20, 1916, gage height, 19.5 ft, site and datum then in use, from rating curve extended above slope-area measurement at gage height, 16.2 ft for flood of Sept. 28, 1926; no flow Feb. 25, 1913.

1929–2000: Maximum discharge, 100,000 ft<sup>3</sup>/s Oct. 2, 1983, gage height, 33.0 ft from floodmark, from rating curve extended above 12,000 ft<sup>3</sup>/s on basis of peak discharge computed by step-backwater method at Hayden Railroad Bridge, 17.8 mi upstream, and by flood-routing; minimum daily, no flow for many days in most years.

**EXTREMES FOR CURRENT YEAR**--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and (or) maximum (\*):

	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
	Feb. 12.....	2345	*7,040	*12.30

Minimum daily discharge, 0.40 ft<sup>3</sup>/s Nov. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	0.90	111	129	169	204	579	419	532	751	903	718
2	94	0.84	122	100	148	235	594	426	567	751	974	809
3	96	0.97	122	127	138	310	632	430	582	753	1480	734
4	97	1.0	126	1730	132	317	686	441	596	753	613	734
5	98	0.97	130	1560	136	324	519	454	622	755	612	732
6	99	1.3	131	855	151	364	631	459	631	757	622	732
7	98	1.7	108	331	152	392	661	459	640	756	538	733
8	99	1.6	69	189	151	377	657	460	647	778	594	778
9	99	2.3	65	104	241	358	655	463	641	789	577	973
10	90	2.5	71	73	334	345	653	468	642	827	796	926
11	38	2.3	73	59	781	339	648	468	663	871	486	1190
12	23	1.6	86	46	4820	350	645	469	673	862	448	646
13	19	1.4	94	37	4790	374	626	471	679	866	675	583
14	17	1.3	110	40	1300	379	610	479	677	882	677	533
15	17	1.0	122	55	593	380	592	486	679	871	946	502
16	11	0.62	123	57	425	380	580	495	684	864	1190	419
17	5.7	0.40	124	56	339	391	577	498	687	888	1030	357
18	5.5	0.54	130	54	275	394	574	498	685	903	502	324
19	5.3	0.66	138	53	360	395	572	505	685	854	621	312
20	4.3	0.80	139	86	767	400	567	523	690	828	653	312
21	5.3	1.4	139	177	569	395	559	528	696	880	639	313
22	5.2	2.1	137	314	494	392	555	547	692	843	647	312
23	3.4	2.5	118	426	397	390	552	592	698	850	646	308
24	1.8	2.1	97	437	337	388	559	580	697	863	681	295
25	0.78	2.3	99	439	292	390	554	586	716	647	708	286
26	0.85	1.8	99	402	265	390	509	591	726	733	770	289
27	0.90	0.82	99	447	238	434	480	592	728	781	619	265
28	0.87	0.90	99	474	215	470	441	597	729	826	620	252
29	1.1	1.2	103	300	---	516	426	603	731	865	631	245
30	1.1	14	336	247	---	553	423	550	748	865	640	247
31	1.0	---	195	192	---	551	---	529	---	847	691	---
TOTAL	1098.10	53.82	3715	9596	19009	11877	17316	15666	20063	25359	22229	15859
MEAN	35.4	1.79	120	310	679	383	577	505	669	818	717	529
MAX	99	14	336	1730	4820	553	686	603	748	903	1480	1190
MIN	0.78	0.40	65	37	132	204	423	419	532	647	448	245
AC-FT	2180	107	7370	19030	37700	23560	34350	31070	39790	50300	44090	31460

CAL YR 2004	TOTAL 44558.31	MEAN 122	MAX 909	MIN 0.03	AC-FT 88380
WTR YR 2005	TOTAL 161840.92	MEAN 443	MAX 4820	MIN 0.40	AC-FT 321000

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## WATER-QUALITY RECORDS

**LOCATION**--Water samples collected between Florence-Kelvin road bridge and Mineral Creek, and 700 ft to 500 ft upstream from gaging station.

**PERIOD OF RECORD**--Dec. 1950 to Sept. 1994, Feb. 1996 to Feb. 1998, Sept. 2001 to June 2005 (discontinued).

**PERIOD OF DAILY RECORD**--

**SPECIFIC CONDUCTANCE**: Oct. 1964 to Sept. 1976, Oct. 1996 to Feb. 1998.

**WATER TEMPERATURE**: Dec. 1950 to Sept. 1976, Oct. 1996 to Feb. 1998.

**SUSPENDED-SEDIMENT DISCHARGE**: Jan. 1958 to Sept. 1976.

**REMARKS**--No inflow from Mineral Creek between sampling point and gaging station except during infrequent periods of heavy local rains. Unpublished daily specific conductance measurements for period December 1950 to September 1964 available from the Arizona Water Science Center in Tucson, AZ.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Turbidity			Disolved oxygen, percent of saturation	pH	Specif. conduc-	Temper-	Temper-	Hard-	Noncarb-		
		Instan-	white light,	Baro-									
		stante-	det ang	metric pres-	solved oxygen, mg/L	(00301)	(00400)	(00095)	(00020)	(00010)	(00090)	(00904)	Calcium
		dis-	corrctd	NTRU	(00025)	(63676)	(00025)	(00025)	(00025)	(00025)	(00025)	(00025)	
		charge,	cfs	(00061)									
DEC 07...	1120	109	90	723	10.9	99	8.5	1530	10.5	8.7	260	69	65.6
MAR 08...	1110	E227	77	720	9.4	97	8.3	733	17.5	13.7	190	40	49.9
JUN 07...	1055	646	43	715	8.7	102	8.4	642	28.5	20.1	140	9	39.1
Date		Magnesium			Sodium	Sodium	Alka-	Bicar-	Carbon-	Chlor-	Fluor-	Residue	
		Calcium	ium,	water,	Potas-	Sodium	linity, wat flt	Bonate, wat flt	bonate, wat flt	ide, wat flt	ide, wat flt	water, sum of	
Date		unfltrd	ium,	unfltrd	sium,	water,	inc tit	titr., inc tit	titr., inc tit	water, titr.,	water, titr.,	constituents	
		recover	water,	recover	water,	adsorp-	field,	titr., field,	titr., field,	water, filtrd,	water, filtrd,	mg/L (70301)	
Date		-able,	filtrd,	-able,	ratio	filtrd,	mg/L as CaCO <sub>3</sub>	mg/L (00945)					
		water,	mg/L	mg/L	(00925)	(00935)	(00931)	(39086)	(00453)	(00452)	(00940)	(00950)	
DEC 07...	67.9	23.7	23.0	7.58	6	215	192	226	4	280	1.4	143	851
MAR 08...	53.6	15.0	15.4	3.76	2	78.2	146	170	4	88.5	.8	75.2	401
JUN 07...	50.0	11.3	12.8	3.35	3	69.8	135	155	5	81.4	.8	49.9	337
Date		Residue			Ammonia	Nitrite	Total	E coli,	m-TEC	Anti-	Anti-	Arsenic	
		on evap.	total	+	Ammonia	+	nitrate	phorus, gen,	nitro-	mF, MF,	mony, water,	water, unfltrd	
Date		water,	at 105 deg. C.	org-N, water,	water,	water,	water,	water,	water,	water,	water,	water, unfltrd	
		filtrd,	180degC sus-	unfltrd	unfltrd	fltrd,	fltrd,	unfltrd	unfltrd	100 mL	100 mL	ug/L (01095)	
Date		tons/acre-ft	wat flt	mg/L	mg/L	mg/L	mg/L as N	mg/L as N	mg/L	(31633)	(01095)	(01097)	
		(70303)	(70300)	(00530)	(00625)	(00608)	(00631)	(00665)	(00600)			(01000)	
DEC 07...	1.22	898	101	.76	<.04	E.05n	.17	--	340	.30	.3	4.8	5
MAR 08...	.62	459	98	.61	<.04	.47	.22	1.1	E100k	E.18n	E.2n	4.2	4
JUN 07...	.51	375	71	.50	<.04	<.06	.32	--	E67k	E.15n	.2	3.8	4
Date		Beryllium			Cadmium	Cadmium	Chrom-	Copper,	Lead,	Mangan-			
		Barium,	ium,	Boron,	unfltrd	recovery	ium,	water,	unfltrd	ese,	Lead,		
Date		water,	water,	water,	recover	water,	water,	water,	recover	water,	water,	water,	
		unfltrd	unfltrd	unfltrd	recover	unfltrd	unfltrd	unfltrd	recover	unfltrd	unfltrd	unfltrd	
Date		recover	water,	recover	water,	water,	water,	water,	recover	water,	recover	water,	
		-able,	-able,	-able,	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Date		ug/L	(01007)	(01010)	(01012)	(01022)	(01025)	(01027)	(01034)	(01040)	(01042)	(01049)	
DEC 07...	94	<.06	.16	202	E.03n	.09	1.7	2.7	15.3	<.08	3.76	228	<.01
MAR 08...	59	<.06	.15	83	E.04n	.07	1.8	4.6	16.8	<.08	3.50	145	<.01
JUN 07...	93	<.06	.20	85	<.04	.07	1.6	4.4	18.1	.09	4.39	197	<.01

**GILA RIVER BASIN**  
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**WATER-QUALITY RECORDS**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Mercury water, unfiltrd recover -able, ug/L (71900)	Selen- ium, water, unfiltrd unfiltrd ug/L (01147)	Zinc, water, water, filtrd, ug/L (01090)	Sus- pended sediment concen- tration ug/L (01092)	Sus- pended sediment dis- charge, mg/L (80154)	Sus- pended tons/d (80155)
DEC 07...	<.01	1.7	1.1	10	118	35
MAR 08...	<.01	.8	1.1	10	136	--
JUN 07...	<.01	.7	4.8	13	106	185

Remark codes used in this table:

< -- Less than.  
E -- Estimated.

Value qualifier codes used in this table:

k -- Counts outside acceptable range  
n -- Below the LRL and above the LT-MDL